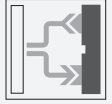




Fiber optic sensor RL61-LL-IR-Z/92/136



- Cost-optimized series for standard tasks in a special design
- Compact design
- Wide range of mounting options thanks to cubic housing design with M30 thread
- 360° high visibility LEDs
- Programmable ON-delay, OFF-delay, and One-shot timers
- 4-in-1 output (push-pull)
- Version with infrared light
- Includes universal fiber adapter kit

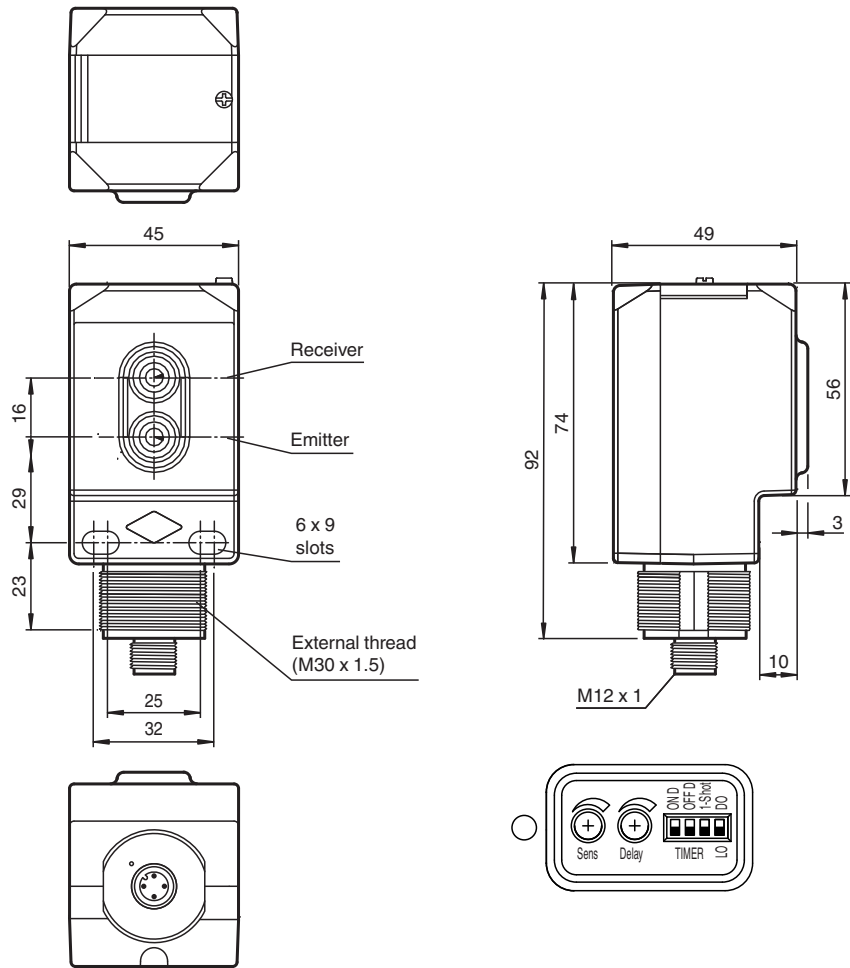
Fiber optic sensor



Function

The Series 61 sensor family is a comprehensive product line, offering five sensing modes. Each sensor is equipped with four LEDs that are highly visible from all directions, indicating Power-On, target presence and marginal excess gain. The widely recognized, polycarbonate housing provides a IP67 protection degree rating. Color-coded labels are clearly printed on the housing to easily identify the sensing mode. DC models offer a 4-in-1 output while AC/DC models have a SPDT relay output rated to 3 A. All versions come standard with an integral multifunction timer, sensitivity adjustment and Light-ON/Dark-ON switch. Series 61 sensors are cross-talk protected and have a high degree of resistance to ambient lighting. Each sensor can be mounted via front and rear slots, rear dovetail guide or M30 x 1.5 mounting base. Additionally, cabled sensor models provide ½" - 14 NPT internal threads for use with flexible conduit.

Dimensions



Technical Data

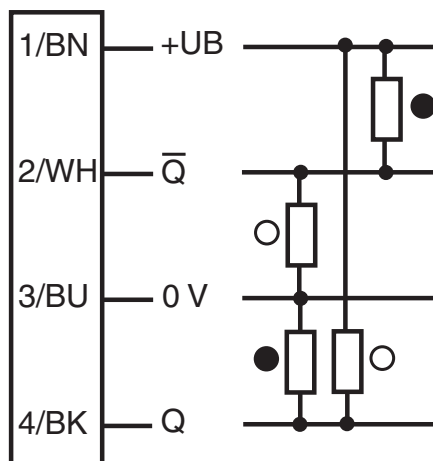
General specifications		
Detection range		Dependent on fibers selected
Light source		IRED
Light type		modulated infrared light , 850 nm
Ambient light limit		5000 Lux ; according EN 60947-5-2
Indicators/operating means		
Operation indicator		2 LEDs green
Function indicator		2 LEDs yellow ON: object inside the sensing range OFF: object outside the sensing range
Control elements		Light-on/dark-on changeover switch
Control elements		Sensing range adjuster
Control elements		Time adjuster (0 ... 50 ms)
Electrical specifications		
Operating voltage	U _B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I ₀	≤ 35 mA
Protection class		II , rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 Output circuit basis insulation of input circuit according to EN 50178, rated insulation voltage 240 V AC
Output		
Switching type		light/dark on, switchable
Signal output		2 push-pull (4 in 1) outputs, short-circuit protected, reverse polarity protected
Switching voltage		max. 30 V DC

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Technical Data

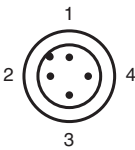
Switching current		max. 100 mA
Voltage drop	U_d	≤ 2.5 V
Switching frequency	f	500 Hz
Response time		≤ 1 ms
Timer function		DIP switch for selection of operating modes
Compliance with standards and directives		
Standard conformity		
Product standard		EN 60947-5-2:2007 IEC 60947-5-2:2007
Approvals and certificates		
EAC conformity		TR CU 020/2011
UL approval		cULus
CCC approval		CCC approval / marking not required for products rated ≤ 36 V
Ambient conditions		
Ambient temperature		-40 ... 55 °C (-40 ... 131 °F)
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications		
Housing width		45 mm
Housing height		73.7 mm
Housing depth		48.6 mm
Degree of protection		IP67
Connection		4-pin, M12 x 1 connector
Material		
Housing		PC (Polycarbonate)
Optical face		PMMA
Mass		120 g
Tightening torque, fastening screws		max. 2 Nm

Connection Assignment



○ = Light on
● = Dark on

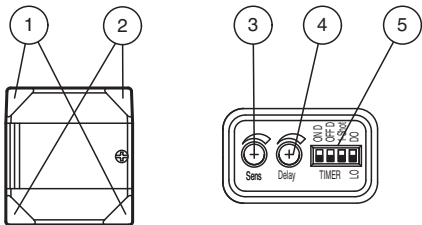
Connection Assignment



Wire colors in accordance with EN 60947-5-2

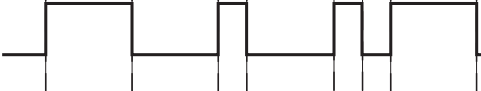
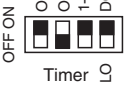
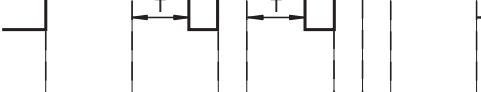
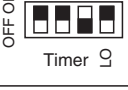
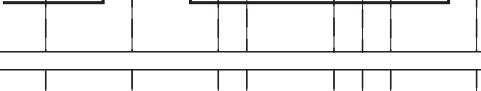
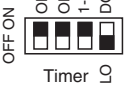
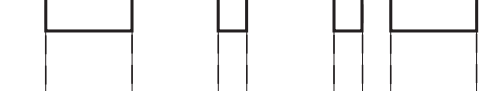
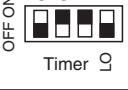
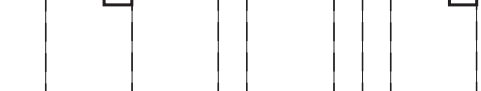
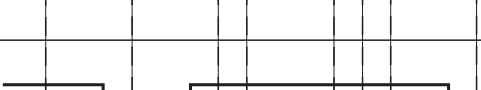
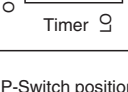
- | | | |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue) |
| 4 | BK | (black) |

Assembly



1	Operating display	green
2	Signal display	yellow
3	Sensing range adjuster	
4	Time adjuster	
5	DIP-switches	

Timer Functions

Switching Type	Detection Status		
L.ON	Operation Mode		Light Received No Light Received
 Timer LO	No Delay (Timer OFF)		ON OFF
 Timer LO	ON Delay		ON OFF
 Timer LO	OFF Delay		ON OFF
 Timer LO	One-Shot Delay		ON OFF
 Timer LO	ON Delay and OFF Delay		ON OFF
D.ON	Operation Mode		Light Received No Light Received
 Timer LO	No Delay (Timer OFF)		ON OFF
 Timer LO	ON Delay		ON OFF
 Timer LO	OFF Delay		ON OFF
 Timer LO	One-Shot Delay		ON OFF
 Timer LO	ON Delay and OFF Delay		ON OFF

DIP-Switch position 

Accessories

	FE-BTS6M-3	Glass fiber optic - diffuse
	FE-BTS6S-5	Glass fiber optic - diffuse
	MPGKITC	Fiber cable adapter kit
	MPZB01	Mounting bracket with vertical slots
	MPZB02	Mounting bracket with circular slots
	MPZB06	Ball and Swivel Mounting Bracket
	MPZB07	Ball and Swivel Vertical Mounting Plate
	V1-G-2M-PUR	Female cordset single-ended M12 straight A-coded, 4-pin, PUR cable grey
	V1-W-2M-PUR	Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey
	FE-BTS6S-3	Glass fiber optic - diffuse
	FE-BTSAS6S-3	Glass fiber optic - diffuse
	FE-BTSAS6M-3	Glass fiber optic - diffuse
	FE-BNSRA5S-3	Glass fiber optic - diffuse
	FE-BRL7S-3	Glass fiber optic - diffuse
	FE-BRL7M-3	Glass fiber optic - diffuse
	FE-BNSRA5M-3	Glass fiber optic - diffuse

Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 911630_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Timer Functions

Switching Type	Detection Status	Operation Mode	Light Received	No Light Received
L.ON				
OFF ON Timer LO	No Delay (Timer OFF)		ON	OFF
OFF ON Timer LO	ON Delay		ON	OFF
OFF ON Timer LO	OFF Delay		ON	OFF
OFF ON Timer LO	One-Shot Delay		ON	OFF
OFF ON Timer LO	ON Delay and OFF Delay		ON	OFF
D.ON				
OFF ON Timer LO	No Delay (Timer OFF)		ON	OFF
OFF ON Timer LO	ON Delay		ON	OFF
OFF ON Timer LO	OFF Delay		ON	OFF
OFF ON Timer LO	One-Shot Delay		ON	OFF
OFF ON Timer LO	ON Delay and OFF Delay		ON	OFF

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PEPPERL+FUCHS

Time (T) is adjustable from 0 to 50 ms

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